

Further information

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Linking Europe and China

Connecting research infrastructures and communities



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中国科技网
China Science & Technology Network



What is ORIENTplus?

The ORIENTplus project connects the research and education communities of Europe and China. It links the Chinese NRENs* CERNET (China Education and Research Network) and CSTNET (China Science and Technology Network) with the 40 million users of the pan-European GÉANT network via super-fast connectivity between Beijing and London. Jointly funded by the European Union's FP7 programme, the Chinese government and European and Chinese NRENs until 2014, the project is co-ordinated by research networking organisation DANTE and provides the highest capacity connection and the shortest network path between the two regions.

What are the benefits for researchers?

- **Continuous:** Direct R&E connectivity between Europe and China since 2007 via predecessor ORIENT project
- **Fast:** Link capacity quadrupled to 10 Gbps since 2013 to meet traffic growth - the highest capacity available for direct EU/China research collaborations
- **Direct:** Uses overland route via Siberia, giving the shortest latency
- **Hybrid:** Provides high capacity IP and point-to-point connectivity services
- **Resilient:** Round the world back up path established to ensure IP service availability
- **Co-ordinated:** Joint operational management by GÉANT and CNGI-6IX network operating centres
- **Accessible:** Open to all European researchers via the GÉANT network and to the Chinese research and education community via CERNET and CSTNET

"International scientific collaboration is the only way to achieve a project like ARGO-YBJ and ORIENTplus makes that a reality for us"

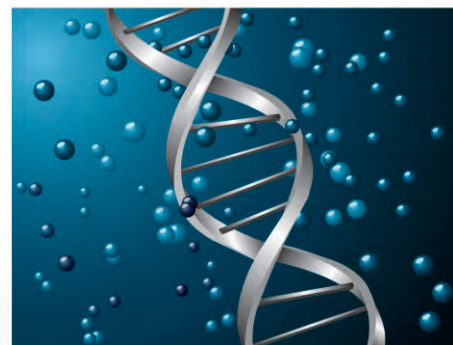
Prof. Cao Zhen, Chinese spokesman for ARGO-YBJ, the Sino-Italian cosmic ray observation project

"The data generated by experimental biology is approaching the scale of CERN's Large Hadron Collider. Now more than ever, we need robust networks, scalable storage and fast compute so that we can realise the opportunities these data provide"

Dr Ewan Birney, Associate Director, EMBL-European Bioinformatics Institute

Driving innovative research and education

ORIENTplus underpins a wide range of data intensive Sino-European scientific collaborations, including participation in the Large Hadron Collider (LHC) studies, the ITER global energy fusion programme, projects at the Shanghai Astronomical Observatory, the ARGO-YBJ cosmic ray observation initiative and genome projects between the European Bioinformatics Institute (EBI) and the Beijing Genomics Institute (BGI).



Decoding the human genome

ORIENTplus tackles the data deluge generated by joint Sino-European DNA sequencing, enabling rapid advances in the medical sciences.



Revealing the mysteries of the universe

ORIENTplus revolutionises the way radio astronomers collaborate by handling massive data transfers from telescopes in Europe and China, providing new insights into the origins of the universe.



Taking global learning to a new level

ORIENTplus enables advanced, real-time knowledge transfer through innovative e-learning tools of the Shanghai Lectures, overcoming the complexity of a multi-cultural and interdisciplinary learning